

WHAT IS CLAIMED IS:

1. A lump management apparatus comprising:  
a plurality of inspection/manufacturing  
apparatuses arranged in a semiconductor production  
5 line;

sensor units for acquiring maintenance information  
concerning maintenance target items of the respective  
inspection/manufacturing apparatuses;

inspection/manufacturing apparatus computers each  
10 of which is connected with each of or a groups of the  
inspection/manufacturing apparatuses and includes a  
function to control operations of the respective  
inspection/manufacturing apparatuses in accordance with  
operation conditions corresponding to the respective  
15 inspection/manufacturing apparatuses; and

a management computer which is connected with the  
respective inspection/manufacturing apparatus computers  
through a communication line, and includes: a  
transmission/reception function to transmit/receive  
20 each information item of the operation conditions set  
to the respective inspection/manufacturing apparatuses  
or the maintenance information from each sensor unit of  
the inspection/manufacturing apparatuses to/from  
the respective inspection/manufacturing apparatus  
25 computers; a change function to intensively manage  
the operation conditions set to the respective  
inspection/manufacturing apparatus computers in a lump

and change the operation conditions in a lump with  
respect to the inspection/manufacturing computer of the  
specified each inspection/manufacturing apparatus;  
a notification function to intensively manage the  
5 maintenance information from each sensor unit of  
each inspection/manufacturing apparatus in a lump,  
monitor an abnormality of the respective  
inspection/manufacturing apparatuses based on the  
maintenance information in order to predict the  
10 abnormality, and notify a warning at the time of  
occurrence of the abnormality; and a display function  
to display each information item of the operation  
conditions of the respective inspection/manufacturing  
apparatuses or each maintenance information item and  
15 an arrangement layout drawing of the respective  
inspection/manufacturing apparatuses on the same screen  
of a monitor device.

2. The lump management apparatus according to  
claim 1, wherein each of the inspection/manufacturing  
20 apparatuses has at least one inspection function of a  
pattern inspection, a line width inspection, an auto  
macro inspection and a micro inspection.

3. The lump management apparatus according to  
claim 1, wherein the inspection/manufacturing apparatus  
25 computer further sets at least one substrate  
information item of a size of a substrate which becomes  
a target of inspection/manufacture, a reference

position, a cell size, and surface acquisition conditions as the operation conditions.

4. The lump management apparatus according to claim 1, wherein the management computer further  
5 includes as the display function a function to display the inspection/manufacturing apparatus as a management target and its operation conditions in the form of a list, and display the management target displayed in this list and each inspection/manufacturing apparatus  
10 which is not a management target and not displayed in the list in different conformations in the arrangement layout drawing.

5. The lump management apparatus according to claim 1, wherein the management computer further  
15 includes as the display function a function to visually display and output the arrangement layout drawing in the monitor device, and display each specified inspection/manufacturing apparatus and the other inspection/manufacturing apparatuses which are not  
20 specified in different conformations in the arrangement layout drawing.

6. The lump management apparatus according to claim 1, wherein the management computer further  
includes as the display function a function to  
25 visually display and output the arrangement layout drawing in the monitor device, and display each inspection/manufacturing apparatus as a maintenance

target so as to be different from the other inspection/manufacturing apparatuses in the arrangement layout drawing.

7. The lump management apparatus according to claim 1, wherein the management computer further includes as the display function a function to visually display and output the arrangement layout drawing in the monitor device, and extract and display the maintenance information of a corresponding inspection/manufacturing apparatus by specifying the visually displayed desired inspection/manufacturing apparatus.

8. The lump management apparatus according to claim 1, wherein the management computer further includes a function to set a timing to validate the operation conditions changed in a lump with respect to each specified inspection/manufacturing apparatus.

9. The lump management apparatus according to claim 1, wherein the management computer further includes a sort/select function to classify/rearrange the operation conditions set to the inspection/manufacturing apparatuses in accordance with each apparatus, each apparatus category, or each apparatus group, and collectively rewrites the operation conditions of an inspection/manufacturing apparatus classified by using the sort/select function as the change function.

10. The lump management apparatus according to claim 1, wherein the management computer further includes as the notification function a function to notify a portable terminal of an operator or a management terminal of a maintenance management department established in another area of an abnormality of each of the inspection/manufacturing apparatuses.

11. The lump management apparatus according to claim 1, wherein the management computer further includes as the notification function a function to determine a light source used in inspection or manufacture in each of the inspection/manufacturing apparatuses as a maintenance target item, integrate lighting times of the respective light sources of the respective inspection/manufacturing apparatuses and compare the result with an average life time, generate a notification to call attention when the light source is close to a life end point, keep giving a warning by using sound until replacement of the light source when the average life time is reached and when the light source cannot be used, and notify a portable terminal of an operator of a warning.

12. The lump management apparatus according to claim 1, wherein the management computer further includes a light control function to determine a light source used in inspection or manufacture in each of the

inspection/manufacturing apparatuses as a maintenance  
target item, illuminate an inspection/manufacturing  
object as a reference while changing a voltage of the  
light source in advance, create an ideal lamp  
5 characteristic curve from a voltage obtained by  
measuring by using the sensor units a brightness of  
reflected light beams acquired from the illumination  
and brightness data, and adjust a voltage of the light  
source in such a manner that the brightness of the  
10 object to be inspected/manufactured becomes equal to  
the brightness relative to a set voltage having the  
ideal lamp characteristics in an  
inspection/manufacturing step of each of the  
inspection/manufacturing apparatuses.